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Foreign Agriculture

ISSUED BY
FICE OF FOREIGN AGRICULTURAL RELATIONS, U. S. D. A.
WASHINGTON, D. C.

AUGUST
1950

CHINESE PEASANT
AND

Foreign Agriculture

Vol. XIV • AUGUST 1950 • *No. 8*

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FRONT COVER

Chinese Peasant and Village Official

Tenant farmer watches a village official seal the contract that will permit him to keep a higher proportion of the crops he grows. This rent reduction program was one of many projects carried out in China by the Chinese-American Joint Commission on Rural Reconstruction before it transferred its activities from the mainland to Formosa last year. (Photo courtesy of the Joint Commission on Rural Reconstruction.)

BACK COVER

Map of China

Provinces in which Joint Commission on Rural Reconstruction projects have been located. (Data for map courtesy of Economic Cooperation Administration.)

NEWS NOTES

USDA Extension Specialist Goes to Pakistan

Karl Knaus, veteran United States agricultural extension worker, is now in Karachi helping the Government of Pakistan develop the country's extension and rural welfare services. The assignment was made at the request of the Government of Pakistan to the Department of State. It is an outgrowth of a previous visit by Pakistan's Director General of Agriculture to the United States where he was favorably impressed by the helpful services provided to farmers by Federal and State agricultural agencies.

Mr. Knaus' work is being done under Public Law 402, which authorizes technical cooperation with other governments. He is one of several agricultural experts who have been sent to the Far East recently by the United States Department of Agriculture's Office of Foreign Agricultural Relations to cooperate in programs of agricultural improvement. Such work is a forerunner of similar cooperation to be provided foreign countries under the Point IV Program.

South American R & M Studies

Henry A. Baehr, OFAR marketing specialist and cereal chemist, is in South America making a study of the grain marketing situation there. He will return in November after studying production, consumption, and foreign trade in grains and grain products in most of Latin America. Mr. Baehr was a member of the Far East Grain Mission that made a similar study in Asia.

M. J. Lindner, chief of the U. S. Fishery Mission to Mexico, and *R. O. Smith*, chief of the U. S. Fishery Mission to Peru, have completed a first-hand study of fish production and marketing in Central and South America.

Credit for photographs is given as follows: pp. 167, 168, 171, 173, Joint Commission on Rural Reconstruction; pp. 175, 176, Arthur T. Thompson; pp. 178–179, Henry W. Spielman; pp. 181, 182, C. S. Stephanides; p. 184, Annellese Scherz.

FOREIGN AGRICULTURE — ALICE I. FRAY, EDITOR

A monthly publication of the Office of Foreign Agricultural Relations of the United States Department of Agriculture, Washington, D. C. The matter contained herein is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business. The printing of this publication has been approved by the Director of the Bureau of the Budget (November 6, 1947). Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., at 15 cents per copy, or by subscription at the rate of $1.50 per year, domestic; $2.00 per year, foreign. Postage stamps will not be accepted in payment.

Rural Reconstruction Under the China Aid Act*

History of some of the problems and progress of the Joint Commission on Rural Reconstruction—a pre-Point IV program for Southeast Asia.

by WOLF I. LADEJINSKY

Ever since President Truman announced his Point IV Program on January 20, 1949, there has been a great deal of discussion in and out of Government circles on how best to give technical aid to economically underdeveloped countries. Much of this discussion has centered on agriculture for most of the people in these areas depend on farming for a living. The effectiveness of Point IV aid will depend on several things, including its scope in a given country, the number of countries involved, and the material means and technical personnel available. Much, too, will depend on how well we apply the lessons and experience of United States agricultural aid in Latin America, China, and Formosa.

Technical assistance in Latin America has been going on for a decade; the work in China and Formosa began less than 2 years ago, but it is there that I saw first-hand a pattern of agricultural assistance that may be applicable to the Point IV Program. This is the pattern worked out by the Joint Commission on Rural Reconstruction (JCRR), set up in 1948 under the China Aid Act.

The purpose of this Act (Public Law, 472, 80th Cong.) was to improve and stabilize China's economy. Four-fifths of the Chinese are farmers, most of them barely making a living. Therefore, no improvement in living conditions was possible, and hardly a measure of political stability could be achieved, without giving some aid to the country's farm economy.

Chinese scientists discussing cotton improvement plans with JCRR members, Szechwan Cotton Improvement Station.

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* This article is based on the author's first-hand observations of the work of the Joint Commission on Rural Reconstruction in the field and on the voluminous material issued by the Commission.

Irrigation and flood control projects had high priority in JCRR's program in China.

The act recognized this, and section 407 provided that up to 10 percent, or $27.5 million, of the amount appropriated for economic assistance to China could be devoted to the betterment of agricultural conditions. This fund was to be made up of United States currency, or Chinese currency from sales of commodities made available to China from funds under the act, or both. To carry out this work, a Joint Commission for Rural Reconstruction was created, with authority to formulate and execute such a program in China.

The JCRR was to be composed of two American and three Chinese citizens, the chairman of the Commission being a Chinese member. By September 16, 1948, all members had been selected. The caliber of the membership deserves notice, for they were all people with intimate knowledge of China's rural conditions. On the Chinese side there were Dr. Chiang Mon-lin, former Minister of Education, one-time Secretary General of the Chinese Cabinet, and a student of rural China; Dr. James Y. C. Yen, for almost 30 years head of the Mass Education Movement among Chinese farmers; and Dr. Shen Tsung-han, China's foremost plant-breeding expert. On the American side were Dr. Raymond T. Moyer, for 15 years before the war engaged in agricultural work in China and Chief of the Far East Division of the United States Department of Agriculture, during and immediately after the war; and Dr. John Earl Baker, engineer, former adviser to the Chinese Ministry of Railways, and for years a relief executive in China. This was the group that formally assembled for the first time in Nanking on October 1, 1948, elected Dr. Chiang Mon-lin chairman, and launched the formidable task of agricultural reconstruction in China.

The life of the Commission in China was a short one. As the Communist armies moved through China in late '48 and '49, the Commission was compelled to shift its headquarters from Nanking to Canton and finally to Formosa, in August. By the end of the first year of the Commission's existence, all its work on the mainland had to be suspended and carried over to Formosa, still outside the reach of the Communists. Notwithstanding the extremely difficult circumstances under which the Commission worked on the mainland of China, it gained useful experience in the field of agricultural reconstruction along the following broad lines:

1. Establishing basic principles underlying a sound reconstruction program in underdeveloped areas.
2. Establishing criteria for selecting projects.
3. Organizing an agricultural reconstruction program.
4. Achieving results quickly.
5. Accomplishing much with little money.

In working out the agricultural program in China, a number of problems had to be treated simultaneously. This is illustrated by the nature of the Commission's work. From its inception through November 1949, the Commission assisted a total of 216 projects: Agricultural improvement, 91; irrigation, 51; rural health, 25; rural industries, 18; farmers' organizations, 16; land tenure reform, 8; and citizenship education, 7.

One of the principal tasks of the Commission was to determine what parts of the over-all goals were realizable, especially considering the rapidly deteriorat-

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ing military and political conditions on China's mainland. Much thought, therefore, had to be given to implementing a program that would yield results quickly. At the beginning the Commission decided that an integrated program should be built on a selected county basis. The idea behind it was that a successful program of this kind might, by force of example, spread to other counties and provinces. However, according to Dr. Raymond T. Moyer:

> The program as adopted at the beginning could not influence the situation significantly within the time which we foresaw would be allowed for the Commission's work. The integrated program centers developed too slowly, and assistance on a piecemeal basis did not help enough people solve their most basic problems. . . . We decided that a great deal still might be done by action in a more limited program, emphasizing felt needs of vital importance to the rural people, carried out on a large scale.

Actually, the "limited program" meant handling a limited number of the most important problems, on a wider scale. For what followed was a bold rural program in the Provinces of Szechwan and Kwangsi, on the mainland, and later in Formosa.

Out of the shifts and changes, induced primarily by experience of working with the farmers, the JCRR developed the following National Program, its constituent elements given here in order of priority:

1. Land reform.
2. Irrigation.
3. Fertilizer.
4. Farmers' organization.
5. Rural industries.
6. Plant and animal disease.
7. Seed multiplication.
8. Animal breeding.
9. Rural health.
10. Audio-visual education.

Placing land reform first among the items was no accident. The enthusiastic reception of the Commission's help in carrying out what is known as the Lungyen land reform project, and the exceptionally bad tenancy conditions in the Kwantung Province, induced the Commission to pay close attention to the problem. It was equally clear to the Commission that the chief beneficiaries of the technical projects would be the landlords and not the majority of the farmers—the tenants—unless tenancy conditions were improved.

To help farmers get credit and market their produce, the Commission encouraged the organization of farm cooperatives, through which rural industries might develop and which generally might serve as centers of agricultural rehabilitation.

The audio-visual education efforts stemmed from the illiteracy of the farmers, on the one hand, and the need to provide a readily understood medium to arouse the cooperation of farmers, on the other. To solve this problem the JCRR developed such media as graphic portfolios, posters, film strips, simply written short pamphlets, and comic books.

Generally speaking, on the technical side of the program as a whole, the Commission has been supplying specialists, both Chinese and American, to formulate sound plans and establish means of carrying them out. On the financial side, the Commission has been furnishing a certain amount of funds for specified purposes essential to the success of the program, supplementing them with funds supplied from provincial or local sources.

Basic Principles

Perhaps one of the most important features of the JCRR, in itself and in relation to any Point IV Program, are some of the principal ideas that have stamped its character. For example, the Commission ruled out costly projects with modern equipment—good for American agriculture but definitely too "high hat" for Chinese agriculture. The Commission also decided not to set up new enterprises that would compete with those already established. If, for example, a local serum-manufacturing business was found to be inadequate, the Commission was ready to assist in enlarging and improving it but was not willing to start a completely new, competing enterprise.

The Commission was careful, too, not to approach its work with a preconceived notion as to what is good for farmers. Such ideas, it was felt, must come from the farmers themselves, as a result of close contact with them. As Dr. Chiang Mon-lin put it: "Regardless of how good are our intentions and how sound a program, if the rural people do not want the program it cannot be imposed upon them."

In addition the Commission avoided long-range projects but did not hesitate to spend a considerable amount of money on irrigation when it was certain of higher yields in the immediate future.

Selecting Projects

As the Commission got under way, it received hundreds of applications for assistance. Between November 1948 and February 15, 1950, 1.178 applications were received from China's provinces and from Formosa. Only 297 applications were approved. In Formosa alone, by May 31, 102 project applications out of a total of 429, were acted upon favorably. Clearly, the Commission had to make choices, and it made them by establishing a number of rather significant criteria, which might well serve as a basis for a similar approach in agricultural assistance work in other areas.

The Commission proceeded on the assumption that in China (as in any other country) when one engages in farm aid, one must win the good will of the farmers. To do that, those projects that the farmers want most must be promoted. No project can succeed without the active participation of the people; it must have the support of a local group. Past experience has shown that money expenditure alone does not create lasting reconstruction; what is important is that the aid should help the people to help themselves, by utilizing their own resources to a maximum degree. Not only must the people take active part to insure the success of a project, but the cooperation of the government is equally vital. Without its support and without its general concern for the welfare of the people, the development of a project is practically impossible.

In addition, the educated youth of the country must be drawn into the work of agricultural reconstruction. In China, as elsewhere, they represent the country's hope of the future, and to secure their support for agricultural reconstruction means training a new leadership so vital to the lasting success of a country's agricultural economy. Too, the Commission has felt that a project must benefit the greatest number of farmers. And finally, the Commission's criterion for giving aid and assistance to a project has been based on the idea that physical reconstruction must be accompanied with social justice, which, in effect, means fair distribution of farm income among all the parties connected with the land. This idea is closely associated with improving productive technique and with the business side of farming, as well as with the attitude of the farmers toward agricultural reconstruction.

The JCRR, for example, favored irrigation as a means of increasing agricultural productivity, but it found it necessary to raise this question: "Whose land?" The Commission was afraid that failure to ask this question and *act* upon it might bring about a situation where, in its words "the rich became richer and the poor poorer." Hence the criterion that while one must begin with physical improvements, *social* reconstruction must not be neglected if the true goals of rural reconstruction are to be achieved.

Organizing the Program

These ideas and criteria were being translated into action first on the mainland of China, and currently in Formosa, through the actual operation of the National Program. For this purpose the program of the Commission has been divided into five main divisions: Agricultural, Land Tenure, Irrigation, Rural Health, and Audio-Visual Education. The division heads are either Chinese or Americans, with a great deal of experience in their respective fields; their staffs screen the projects, make recommendations to the Commission, and supervise field operations. When the Commission operated on the mainland of China, it had regional offices headed by a representative of the Commission. The representative served as a liaison between the Commission and local agencies, and he was responsible for supervising the projects.

Much of the technical work within the Commission is done by Chinese. It has been the Commission's policy to hire American technicians only when absolutely necessary. Their role is one of guiding and training, and in the experience of the Commission such efforts can be accomplished with few Americans. In Formosa the Commission employs 200 people; of these only 17 (including the two Commissioners) are Americans. The Commission can function with this relatively small staff because it has succeeded in inducing the agencies sponsoring the projects to do most of the work.

The role of JCRR in controlling the rinderpest outbreak in Formosa in the fall of 1949 is a good example of that. On learning of the outbreak of the disease, the Commission secured the complete cooperation of the Formosa Department of Agriculture in the campaign to eradicate it. The Commission provided the vaccine, an experienced veterinarian, and obligated itself to pay half the indemnity (Formosa's Department of Agriculture paid the second half) for the slaughtered cattle. This, together with an intensive educational program aroused the farmers to the danger of the epidemic and secured their active cooperation. As of February 1, 89 percent of the 67,000 cattle were vaccinated, and by the middle of February the operation was virtually completed. The monetary contribution of JCRR to this program was only $6,192, but the other and real contribution, hard to evaluate in terms of dollars, was the drive the Commission generated to insure the success of the fight against rinderpest. The actual work was carried on by the local Department of Agriculture and other provincial agencies, in close cooperation with farmers.

The program of JCRR, as indicated, is made up of a great variety of projects. At present they are confined to Formosa; as of May 31, 1950, the Commission was assisting 102 projects. To cite but a few:

Rehabilitation of Rural Domestic Water Supply Plants, sponsored by Provincial Department of Reconstruction; Commission subsidy, $189,000.

Multiplication and Extension of Rice Seeds, sponsored by Formosa Provincial Department of Agriculture and Forestry; subsidy, $30,000.

Production of Hog Cholera Crystal Violet Vaccine, sponsored by Formosa Provincial Veterinary Serum Institute; subsidy, $20,000.

Supervision of Distribution of ECA Fertilizer, sponsored by Bureau of Food, Formosa Provincial Government; subsidy, $15,000.

Health Survey, sponsored by Public Works Administration and Provincial Health Administration and National Institute of Health; subsidy, $1,000.

How is a project initiated, contracted and paid for, and inspected? And how are the results evaluated? A project is generally initiated by a sponsoring agency, Governmental or private. The appropriate division of the Commission reviews the project from the standpoint of technical feasibility, reality of cost estimates, conformance with JCRR policies, and then makes its recommendation to the Commission. Schedules of payments are included in the recommendation if the project is to be approved. Upon approval, the Commission enters into a written agreement with the cooperating agency, in which responsibilities of both parties are clearly stated. In every instance, the Commission retains the over-all supervision of the work of the project.

The agreement provides for a careful audit of money spent by the sponsoring agency. All payments, other than the initial payment, on the part of the Commission depend on the progress of the work. The sponsoring agency submits a monthly progress report, and the Commission, in turn, investigates developments.

Results

What of the results achieved by the Commission? Because of the brief period of the Commission's activity on the mainland of China, it is difficult to determine the accomplishment of the projects initiated in areas now under Communist domination. The results of such projects as the organization or reorganization of farm cooperative associations, or the projects centered around the mass education movement in Szechwan, could be fully determined only in time and under normal political conditions—conditions not obtainable. Despite these handicaps, I believe that where the projects were initiated, the Commission usually planted seeds that may not necessarily be lost even where Communists hold sway.

Control of livestock diseases in China was a leading JCRR project.

Farmers were not slow in appreciating the value of the efforts in their behalf. The enthusiasm of farmers for the practicality with which the Commission went about developing a project was quite apparent as was the enthusiasm of many Chinese agricultural officers participating in this work. It would not be surprising, therefore, to discover at some later date the survival and continuation of some of the work and ideas introduced into rural China by the Commission.

In the field of land reform, which in some areas was instigated by the Commission while in others by the Nationalist Government, 15,000,000 farm people are bound to raise their standard of living above a bare subsistence level through the 25-percent reduction in rent. In Szechwan and in Formosa, I saw how successful the land reform program was, totally out of proportion to the financial assistance given by the Commission: In the former, for example, JCRR was able to assist the rent reduction program from which 1,700,000 tenant families benefited at a cost of only $218,000, or not much more than a dime per family.

In Kwantung, Kwangsi, and Szechwan, more than 200,000 acres were irrigated or existing facilities improved in less than a year. The increase in rice production was estimated at 164,000 tons. In the Province of Hunan, where the Commission allocated

$1,000,000 for irrigation, matched by a similar contribution by the local people, it was estimated that the first post-irrigation crop would increase the value of the output by $12,000,000.

The multiplication seed project in Formosa, already carried out, involved the Commission in a cost of $30,000. The results of the work on the Foundation and Stock seed farms cannot as yet be determined, but, from the seed on the Extension farms and that distributed among farmers, even a 5-percent increase in yield will raise production by 13,000 tons, valued at more than $1,000,000.

In addition to its accomplishments, both in China and Formosa, in the field of increasing agricultural production and of distributing farm income more equitably, the Commission made considerable headway in improving rural health, eradicating animal disease, organizing farm cooperatives, and aiding rural handicrafts with which peasants have supplemented their income from the land.

Some of the real achievements of the Commission fall into the category of the so-called intangibles, which cannot be easily measured by any merit-point system. Every country of Asia has a reservoir of native talent, but often it does not know how to go about improving the welfare of the people. The JCRR tapped a measure of that talent in China. The few, but well chosen, Americans on the Commission's staff performed that function in addition to their described duties as they appear on an organizational chart. It is fair to say that one of the Commission's important projects, albeit never listed, is the talent multiplication project.

It is difficult, too, to evaluate in concrete terms what seems to me one of the Commission's greatest achievements—the philosophy, as it were, shaping the work of the Commission. Frequently, Westerners operating in non-Western surroundings have been all too prone to carry over notions foreign to the new environment, thereby reducing the effectiveness of the effort. The JCRR has been free from making such mistakes. On the contrary, it has formulated a set of workable principles in the light of China's and Formosa's rural needs, which in turn have given meaningful direction to its work. Such nonmaterial developments cannot be easily measured and it is difficult to assign specific values to them. But that they are of great significance nevertheless was quite obvious to me as I watched the Commission at work and studied its decisions at close range.

Cost of the Program

How much did the program cost and how well did the Commission spend the money? It was originally agreed that the Commission would finance its operation from three sources: United States funds and funds furnished by the Chinese Government and by Chinese farmers. The contribution of the latter was to have consisted mainly of payments in kind and labor and repayment of the JCRR loans contracted by them for a given project. But from the outset, and particularly in view of the worsening military situation and financial chaos, it became difficult to secure the agreed upon share from a sponsoring agency. The Commission was compelled to draw more and more upon United States resources. Yet despite this, and notwithstanding the considerable tangible and intangible results of the work of the Commission, it spent only $4,755,500 from October 1, 1948, to May 15, 1950.

Whether considered alone or compared with other China aid programs, the sum is small indeed. The Commission has been most conservative in allocating money for projects, and, once allocated, careful in insuring that the money be spent as intended. The Chairman of the Commission, Dr. Chiang Mon-lin, has repeatedly stated in public that the United States taxpayer furnishes the bulk of the money and that it must be used only for sound projects, yielding significant results. The largest amount of money was spent on irrigation projects, scattered in various parts of China, often difficult to control closely. Yet there is reason to believe that between 90 and 95 percent of the money was properly spent. My own field observations on the JCRR's expenditure of money on the rent reduction programs led me to the conclusion that when money is judiciously spent a great deal can be accomplished with relatively small means.

The care with which the Commission was spending other people's money was also due to the fact that the Commission drew a sharp line of demarcation between a program of expenditure for capital equipment and the Commission's program of technical, economic, and social rural reconstruction designed to help the farmers to help themselves. Moreover, the Commission realized that "the number of tested improvements which can be introduced on a large scale in China's rural areas still is limited." Where it found them, as for example in irrigation, in control of animal disease, in multiplication and distribution of improved varieties of important field crops, or in rent reduction, the

Commission did not hesitate to give maximum aid. At the same time, the experience of the Commission shows that unless it can be usefully absorbed money alone cannot solve problems. And this is a point worth remembering in all rural aid efforts in underdeveloped countries.

Such in the main are the aims, organization, work, and results of the work of the JCRR. It came too late to alter the course of events in China, but I believe that this is one of America's most fruitful ventures, for what it attempted, actually did, is still trying to do in Formosa, and, above all, for what might be done, on a larger scale, and in better time, elsewhere.

The Joint Commission on Rural Reconstruction is truly a *joint, cooperative* organization, where Americans and Chinese work together in a common task. This device points the way to a similar pattern, whenever possible, in other parts of the world. Such a pattern goes a long way toward obviating the accusation that we harbor ulterior motives in offering assistance, and, above all, it insures an effective working relationship.

The Commission has demonstrated that in rural reconstruction a little money well used can go a long way, providing, of course, that the cooperation of the Government is enlisted to a point that it is willing to take the required action to put the necessary measures into effect. The Commission has pioneered the idea that in order to meet the fundamental causes of rural discontent, a rural program must be fashioned in the light of the economic, political, and social conditions existing in a country. For this reason, the JCRR Program does not limit itself to technical problems, pertaining to raising agricultural production. The Commission has broadened the concept of technical agricultural aid by recognizing the importance of raising the questions: whose land is being improved, how will increased income be shared between landlord and tenant, how do tenants fare in existing conditions.

This novel concept of combining technical aid with

Chinese farmer examines cotton he has grown from the improved variety, Okra-delfos, introduced by JCRR.

that of remedying social inequities strikes at the fundamental causes of peasant discontent. The peasants with an improved economic status and a brighter hope of the future acquire a stake in the countries in which they live. Therein lies the foundation for a middle-of-the-road, stable, rural society. The political corollary of this type of rehabilitation cannot be overestimated, for it is fair to assume that peasants will be more prone to support a government that is contributing its share to making the economic and social benefits. And what many a native government in Asia needs most is popular support, and popular support in Asia is peasant support. My first-hand observations of JCRR lead me to the conclusion, therefore, that its program as a whole deserves serious consideration as a means of meeting the problems of poverty-stricken, rural areas everywhere, particularly wherever the countryside is an easy prey to Communist propaganda and infiltration, and wherever Communists are trying to harvest crops they have not planted.

Argentine Agricultural Policy Changes

By CONSTANCE H. FARNWORTH and QUINCY EWING

The Argentine Government has promised a change in its economic policy in 1950, shifting emphasis from rapid industrial development to intensified agricultural production. This increase in farm output is to be accomplished through a 3-year agricultural plan that will replace the industrial plan of the past 3 years. The critical shortage of foreign exchange last year directed official attention to the drop in production of agricultural export crops, which furnish the main source of Argentine purchasing power abroad, and brought about the announced change in policy.

The Government has told growers that steps will be taken to provide facilities for greater production. However, the existing problems of Argentine agriculture cannot be rapidly or easily solved.

Production Background

Acreage planted to export crops in Argentina has been dropping steadily for the past decade because of conditions brought about or related to Argentine industry promotion and price policies. In 1949 the aggregate area planted to wheat, corn, barley, rye, oats, and flaxseed, Argentina's chief agricultural export crops, dropped to 13.4 million hectares (about 33.1 million acres), only 65 percent of the area planted to these crops 10 years previous. Land diverted from these uses has gone largely into pasture for beef and dairy cattle and to some extent to crops for domestic consumption such as cotton, fruits, and edible oilseeds. The basic factors responsible for the acreage decline were (1) a shortage of farm labor, which caused growers to shift from crops with high labor requirements, (2) increased domestic demand, which stimulated production of home-market products, (3) reduced returns to growers as a result of the operation of marketing and exchange controls that enabled the Government to retain export margins, and (4) a failure to permit importation of needed farm machinery and equipment. These factors discouraged producers because they reduced the opportunities for private initiative.

Argentina's immediate problem in 1950 is how to increase grain output in order to enlarge the country's purchasing power abroad. There are some indications that, to help solve this problem, Government efforts are being devoted to providing appropriate machinery and equipment and adequate profit incentives.

Mechanization

A major problem of Argentine growers in 1949 was lack of farm machinery, both new and repair parts. Argentine imports of farm equipment from 1940 through 1949 were far below replacement needs. In the first part of the period, this was caused by the world shortage of machinery due to the war and, later, in 1948 and most of 1949, it was the result of the Government's not allocating foreign exchange for the most pressing agricultural needs. The outcome was a reduction of machinery in proper operating condition. The postwar drop in grain planting, however, prevented what might otherwise have resulted in a large-scale retrogression from machinery back to animal-drawn implements and even to hand labor.

With the announcement of the 3-year agricultural plan, a major allocation of exchange, including $20,000,000 (U. S.) and the equivalent of $7,000,000 in other currencies was made by the Government for imports of machinery to use on the 1950–51 crops. The Government further announced that mechanization is fundamental to its agricultural policy and that foreign exchange will be provided regularly in the future for this purpose.

Marketing and Price Policies

The Argentine Government in 1949 modified, but did not basically change, its policy of handling for its own account the export surpluses of agricultural products. The Argentine Trade Promotion Institute (IAPI) continued to establish official prices, monopolized the purchase and sale of principal crops, established margins for processors, administered subsidies, and otherwise regulated the agricultural economy. At the same time, modifications in IAPI's operations during 1949 included (1) abandonment of exploitive export prices in favor of flexible competitive prices, (2) use of private export firms as commission and shipping agents in handling IAPI sales, (3) return of minor products to private export trade, (4) termination of its monopoly on imports of farm machinery and supplies, and (5) authorization permitting private processors of oilseeds to buy direct from growers, subject to minimum prices.

One of the most criticized aspects of the Government policy in 1949 was the failure to announce IAPI's buying prices for crops until after the harvests were started. This caused dissatisfaction among farmers because they needed the information earlier in order to plan their operations intelligently. The prices were finally announced during the harvest in December and were reportedly based on cost-of-production studies, plus a profit of 5 to 6 percent. The wheat price set at $1.90 per bushel was not high enough to be an incentive to growers, but the price set for the 1950–51 crop announced in March 1950 shows a substantial increase over that of last year. To growers who work the land, the new prices set on wheat, corn, and flaxseed are 20 percent or more above the 1949 prices. No increase is to be paid, however, to landlords who receive grain as share rent, the objective being the promotion of land ownership by small farmers.

Argentina's surplus agricultural stocks were mostly liquidated in 1949 by gradual price cutting, but this device was not effective for linseed oil because of large surpluses in consuming countries. At first the Government planned to carry grain surpluses for a time in underground pits, but this plan was abandoned because of the urgent need to acquire foreign exchange.

The Government maintains that during its existence IAPI has served to eliminate middlemen and direct the country's income into proper channels. The administration conceded that its policy in recent years has diverted agricultural income away from farmers. It maintains, however, that its long-range objective was price stabilization and that price supports will be instituted in 1950 to protect growers from falling world prices. Though IAPI's profits were large prior to 1949, they shrank in that year to bare handling commissions, and possibly to net losses. The Argentine Government as a whole, however, continued to derive substantial revenue from exchange profits because most agricultural products were assigned exchange rates well below those at which the Central Bank sold exchange to importers.

There is little prospect during 1950 for any change in the general framework of Government marketing controls under which farmers must operate.

Subsidies

Lack of funds forced major reductions in the subsidies paid in 1949 by the Argentine Government to keep food prices low for urban consumers. Subsidies

Carrying bagged grain from truck to railroad warehouse.

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were eliminated altogether at midyear for edible oils, milk, and sugar, and prices rose sharply. Wheat flour now carries the major direct subsidy, payment of which is being financed during 1950 by direct appropriation. Meat packers, who otherwise could not have operated on the narrow margin between official cattle prices and the contract price at which meat was shipped to the United Kingdom, received an export subsidy in 1949 and continued to be reimbursed for losses until the end of June 1950.

Past losses and subsidies are now being audited and efforts are being made to work out a long-range stabilization plan.

The indirect subsidy on meat consumed in Buenos Aires was greatly reduced in 1949 through termination of financial assistance to the municipal slaughter plant. During the latter part of the year the Government, on the other hand, reestablished the subsidy on sugar by assuming some of the cost of the increased wages to labor in the sugar industry.

Agricultural Credit

The agricultural credit situation in Argentina is somewhat confused because of failure to define in advance of the crop year the type of credits available to agriculture. The Government provides directly almost all agricultural credit under a state-controlled banking system, and different loan arrangements are made to meet new developments. Risk and interest rates are high because of inflation.

The Bank of the Nation is the chief instrument for extending agricultural credit of all kinds and for purchasing or expropriating land and distributing it to small operators. There is a standing authorization for credit to colonists up to 100 percent of the value of the land they wish to buy.

Land Ownership and Tenancy

The basic objective in Government land policy is the elimination of absentee ownership and the breaking up of large estates. The Government has often expressed a desire to develop farms of economic size, not less than about 250 acres for crops and around 4,000 to 5,000 acres for cattle raising, with each grower eventually owning the land he works.

Relatively little progress was made toward breaking up estates in 1949 probably because there was little demand among small operators for land. Present tenancy laws make evictions virtually impossible, and

Harvesting sunflowers with a converted small-grain combine, Buenos Aires Province.

many operators prefer tenancy to the financial responsibilities of ownership. In addition, labor and tenants were drifting out of agriculture into the cities. Too, there was little interest in grain farming in 1949 because of relatively unprofitable prices. And, finally, the Government found the high cost of expropriation difficult to meet at a time when its financial problems were growing. Though the Provincial governments expropriated several large estancias during the year, the total area affected was not large.

Last year, regional and central arbitration boards were established to carry out the Leasing and Sharecropping Law of 1948. The board's functions are to interpret the law and settle disputes between landlords and tenants. Such disputes have been few owing to the little freedom of action permitted landlords under Governmental policies. In December a 20-percent arbitrary reduction in share rents was announced. Landlords' shares of corn and wheat, formerly 36 and 38 percent, were cut to 20 percent.

No important developments are expected in land policies in 1950 since considerable time will be needed to test the existing tenancy system and since the lack of much demand by small growers for expropriation of estates to provide individual farms is expected to continue.

Farmers' Organizations

The administration envisions a system of cooperative farm organizations along with research and farm mechanization as a fundamental part of the 3-year plan for agriculture. The producers are to be organized locally, regionally, and nationally for control of production, farm supplies, and marketing. Theoretically the Argentine Government then could dispense with state trading by turning such functions over to the producers themselves. Production could be adjusted as needed by the cooperative groups and effective contact could be maintained between producers and Government. Such organizations with Government participation would complete the structure of the Argentine corporate state. Cooperatives thus far organized in Argentina, however, have not done very well and further rapid organization is considered unlikely.

Meanwhile the Argentine Government continues to regard established farm organizations as too independent and critical for effective use. The Argentine Rural Society, composed of large landowners and cattlemen, has occasionally been consulted by the administration but has little real influence in national affairs.

International Cooperation

Argentina in 1949 continued to abstain from participation in multilateral international commodity agreements and in the Food and Agriculture Organization of the United Nations. Official spokesmen praised the country's bilateral trade agreements as being more effective in promoting trade than such multilateral arrangements as the International Wheat Agreement. The bilateral trade agreements continued to be a marketing device in 1949, being established with most European countries and several South American and Asiatic countries. Of particular importance was the Anglo-Argentine Trade Agreement, which became effective on July 1, 1949. It was designed to provide outlets for Argentine products but, because of difficulties in agreeing on specific prices, it in fact provided for little more than the sale and shipment of meat in exchange for British petroleum and coal. The Reciprocal Trade Agreement of 1941 between the United States and Argentina is still in effect.

During the year Argentina showed particular interest in regional conferences and agreements relating to scientific and sanitary matters. Foreign travel and study by agricultural scientists were almost eliminated because of nonallocation of foreign exchange.

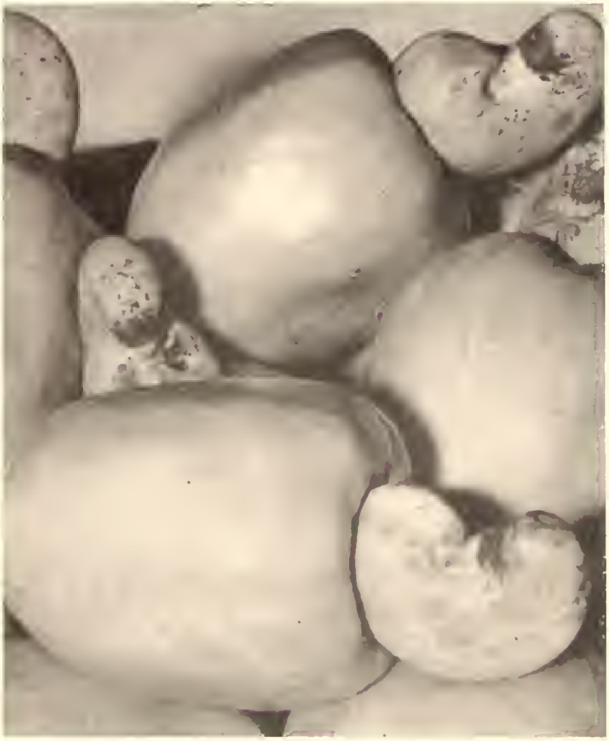
Government Organization

The responsibility for *formulating* Argentina's economic policy was vested during 1949 in the Minister of Economy, assisted by a National Economic Council. The Council, though composed of cabinet members, does not include the Minister of Agriculture or any direct agricultural representative. The Ministry of Agriculture is concerned principally with regulatory duties and research, having relatively little influence in policy matters. Nevertheless, the Minister of Agriculture frequently was an official spokesman for Government agricultural policy. The principal instrument for *administering* policy continued, as in 1948, to be the Argentine Trade Promotion Institute (IAPI).

Agricultural Outlook

Basically the traditional strength of Argentina's agriculture remains evident, indicating the possibility of recovery if appropriate policies are initiated. Livestock numbers were maintained at high levels during 1949, production of cotton, edible oils, and tobacco for domestic use expanded, and the principal factor reducing cereal plantings was diversion of income away from producers rather than decline in productive capacity.

Indian Cashew Nuts Go to Market



The cashew nut is picked from the end of an "apple," which is really the enlarged receptacle of the flower. The nut forms and ripens first; the "apple," later.

Almost all of the cashew nuts eaten in the United States come from India. Furthermore, India's exports to the United States account for most of the international trade in that delicacy. In 1949, United States imports of cashew nuts from India reached a new high point—nearly 37,000,000 pounds. About one-third of them were grown in Mozambique but were sent for shelling to India, where painstaking but relatively inexpensive labor is available.

Preparation of the nuts for market involves several operations: roasting, shelling, blanching, grading, and packing. With the discovery that oil from the nut's shell has important industrial uses, special attention has been focused on developing mechanical methods of roasting unshelled nuts, the process whereby the oil is extracted. Recently there have been some reports of other mechanization in the industry, but most processes are still being done by hand, one of the factors that account for the high price of cashew nuts.

Nuts fall into a drum after passing through a bath of hot oil, which makes them easier to crack.

Most shellers are women and girls. They place the nut on a stone and strike it with a mallet, taking care not to break the kernels since their wage of 2 cents a pound is based on whole kernels only.

A parchment similar to that on peanuts is easily removed by hand after the kernels have been heated on trays in ovens.

Graded kernels go into 25-pound tins. Carbon dioxide is forced into the sealed tins to preserve the nuts.

Crated in pairs, tins of cashew nuts destined for the United States are loaded at the docks of Cochin China.

Land Ownership in Greece*

by A. VARVARESSOS

In the heavily populated areas of the world where few families own the land they farm, land reform is a subject of great concern, not only to tenants but to their governments as well. It may be of interest, therefore, to consider the land ownership pattern in Greece where redistribution began more than a hundred years ago.

Greece today is a country of small farms, ranging from 2.5 to 25 acres and cultivated by the farmer and his family. There are still some landless rural laborers and a few large estates owned by private individuals, corporations, the church, and the Government, but they are exceptions to the rule.

The change in the structure of land ownership in Greece was effected in two ways—through redistribution of most of the public arable land and through the Agrarian Reform by which the Government expropriated large private estates and settled them with landless peasants.

Grants From the Public Domain

The policy of making land grants from the public domain was put into effect as soon as Greece regained its independence in 1830 and continued on a large scale until Thessaly was regained in 1882. During this half century the Government distributed an estimated 825,000 acres of public domain. Another 800,000 acres was encroached upon by land-seeking individuals. Thus, through legal grants and later legitimized acquisitions, the agrarian problem in the old districts has been practically solved. The total arable land existing in these regions has been gradually transferred to rural laborers, in the form of small lots.

Agrarian Reform Program

Greece's agrarian problem became acute with the recovery of Thessaly, one of the most fertile regions of the country. Here, a handful of landlords owned almost all the arable land. The farm system on these large estates differed only slightly from that of the Middle Ages. Landlords collected a third or half of the crop; what remained to the peasants, who actually cultivated the land, was insufficient to meet even their most elementary needs. Moreover, the peasants were considered bound to the estate, almost like serfs of the feudal period.

The problem was not only social but also economic: The landlords lived in the towns and were concerned not with the land itself but only with the income that it yielded; nor were the peasants interested in increasing the productivity of the soil because the land they cultivated was not their own and, moreover, because their share of the crop was fixed on the basis of the gross production rather than on net output.

One of the Government's first measures to meet the situation was the creation of the Thessalian Agricultural Fund, endowed with governmental funds and having the special mission of buying privately owned estates and distributing them at low prices to landless peasants. But the measure proved inadequate. The Fund purchased only 275,000 acres, on which fewer than 7,100 families were settled.

Thus, the discontent and despair of the peasantry grew from day to day and from year to year until serious riots resulted.

Finally in 1917, under pressure of public opinion and the economic need for increasing agricultural production, a law was passed that initiated an integrated, nation-wide Agrarian Reform. According to this law, as it was subsequently amended, and to the Constitution of 1927 (article 119), all privately owned estates of more than 300 stremmas (75 acres) were subject to expropriation and distribution to their former landless tenants or laborers. The expropriation indemnity to the landlords was to be paid by the Government. This indemnity was fixed at a low rate—one-fifth to one-tenth of the current value of the land. The land under expropriation was to be distributed in small lots, the price of which was set very low and which was to be repaid to the Government by the lot holders in 25 yearly installments.

Since 1917, when the Agrarian Reform actually began to be applied, until 1932, when it was practically

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* This article is an extract from Mr. Varvaressos' recently published book, "The Fulfillment of the Agrarian Reform" (Athens, 1949). The author is indebted to Mr. S. G. Xydis for his help in checking and editing its English text.

completed, 1,700 large estates, totaling more than 2,000,000 acres, were expropriated and distributed in the following manner: Approximately 1,200,000 acres of arable land were distributed in small lots to settlers; the remaining 870,000 acres of pastures and forests were granted for common use to cooperatives, consisting of the settlers of each area.

As a result of this extensive Agrarian Reform, about 130,000 families of landless peasants got farms of their own. The size of the farm granted to each family varied from area to area.[1] According to existing data the size of the average farm was about 20 acres in Thessaly, 15 in Macedonia, 7 in Epirus, and about 11 acres in the rest of Greece.

In 1923, after the Treaty of Lausanne, the exchange of population between Greece and Turkey created for Greece a vast new resettlement problem: More than a million Greek refugee peasants from Turkey had to be absorbed.

To resettle these people, a Commission for Refugee Settlement was appointed by the League of Nations and endowed with special funds, and 2,000,000 acres of land was set aside. Thanks to the Commission's activities, 145,127 families received farms, ranging in size from an average of 9.5 acres in Macedonia to 7.5 acres in the rest of Greece.

To the amount of land expropriated or in some way or another granted by the Government for settling landless peasants, one should add an area of 133,000 acres of former swampland, reclaimed for agriculture by public works. This land was disposed of by the Government for the settling of about 28,000 peasant families, on farms varying in size from 5 to 9 acres.

The results of this Agrarian Reform Program may be summarized as follows:

Of Greece's total area of agriculturally useful land (arable land, pastures, forests)—about 20,000,000 acres—4,800,000 acres, or about 25 percent, have been distributed to landless peasants.

Of Greece's total area of arable land—about 8,000,000 acres—about 2,900,000, or approximately 36 percent, have been distributed to landless peasants. Thus Greece, as far as intensity of agrarian reform is concerned, comes second among all European countries.[2]

The lot granted to each family settled varies from 2.5 to 45 acres.

The number of persons settled on land of their own totals about 1,500,000—310,000 families.

Legal Status

The legal status of rural property in Greece varies, depending on whether the farms were the result of the Agrarian Reform, and thus have special status, or are small privately owned lands or medium-sized and large estates, each of which is subject to customary Civil Law only.

Lots Granted Through Agrarian Reform

The farms formed and granted through the Agrarian Reform enjoy a *sui generis* legal status defined in

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[1] The size of lots varied according to the productivity of the soil of each expropriated estate, the land's quality, the amount of land available, and the number of settlers, that is, the former tenants or laborers on the estate.

[2] According to Sering, Die Agrarishen Unwalzungen ins ausserrischen Osteuropa (Berlin and Leipzig, 1930, p. 33), Latvia came first with 42.4 percent; Greece second with 36.2 percent: Rumania, Esthonia, Lithuania, Czechoslovakia, Hungary, Yugoslavia, and Finland followed in that order.

Extension agent demonstrates tree planting methods to Greek farmers who have newly acquired land.

the Agrarian Code. Briefly, its provisions are as follows:

The ownership of the farm is transmitted to the entitled landless person automatically by the publication in the Government Gazette of the ministerial decision ratifying the definitive distribution of the expropriated or ceded estate among those entitled.

Ownership of these farms does not include the absolute right of using and abusing as under Civil Law. It is a right limited by the principles and the purpose established by the Agrarian Reform. A whole set of provisions aim at preserving the land for the peasantry—by good cultivation practices, requiring that the settlers farm their land themselves; preventing, on the one hand, excessive splitting up of the farms and, on the other, fusing many farms into large estates.

These restrictive, protective provisions are numerous before ownership is transferred to the settler. They are fewer and less stringent thereafter, the Agrarian Law's intent being to assimilate gradually the special status of the ownership it regulates to that of the provisions of Civil Law.

Until ownership is transferred, farmers are compelled to remain in the community where they have settled. If they leave with their family for more than 2 years, their rights to the farms are lost. Moreover, the lot holders are obliged to cultivate their farms in person or with the assistance of members of their family, otherwise they are liable to a fine and other penalties. Settlers are subject to this obligation even after acquiring ownership.

Before acquisition of ownership, any disposal, total or partial, is strictly prohibited. After the transfer of ownership, the disposal of the allotted land (by sale, donation, mortgage, etc.) is governed by certain conditions: (1) The cession price must have been paid off, and the cession document issued and duly transcribed; (2) farms cannot be disposed of piecemeal—the part remaining after the disposal cannot be less than 5 acres; (3) no one is allowed to acquire (by purchase, donation, etc.) a lot or part of one that, if added to his own real property or lot, increases its size to more than double a lot. For dowries, only the restriction against dividing the farms is applicable.

Inheritance rights are also subject to a number of provisions of the Agrarian Law. The purpose of these provisions is to keep the land in the hands of the peasant settlers and to prevent excessive division of the lots or the concentration of many lots in the hands of a few owners. These restrictions are applicable chiefly until the transfer of the lot's ownership or until the complete payment of its cession price.

According to the inheritance system of the Agrarian Law, if the settler dies before he acquires ownership of the lot or before he finishes paying for it, his heirs are permitted to settle on the land, provided they have the qualifications of a settler and their rural property does not exceed the area of two lots. Disposal by will is not permitted. On the other hand, if the farmer dies after having acquired ownership or having paid the lot's full cession price, none of the above provisos are effective. The lot is inherited in accordance with Civil Law, with but one restriction, namely, that the heirs are not permitted to divide the farm among themselves into parcels different from those formed at the time of the definitive distribution of the expropriated estate.

Small Holdings

Small holdings include all small privately owned farms from 0.25 acre to 25 acres in area. Though their total extent is not exactly known, it has been estimated that they cover the greatest part of the arable land of Greece after deducting the lots that resulted from the Agrarian Reform. Small holdings are prevalent in most of the regions of Greece that first achieved independence from the Ottoman Empire—the Peloponnese, the Islands, and the Greek mainland south of Thessaly. These small farms are mainly the result of the concession of public land made during the period between 1835 and 1882. But small holdings exist, too, in the regions that were liberated later—Thessaly, Epirus, Macedonia, and Thrace. They began at the time of the Ottoman occupation.

As a rule, the small privately owned farms are cultivated by the owner and members of his family. The legal status of these farms is determined by Civil Law as well as by some special laws enacted during recent decades that testify to the modern legal trend against the absolute, individualistic concept of private ownership and in favor of its subordination to the common interest.

Medium-Sized and Large Estates

Owing to the Agrarian Reform, medium-sized (25 to 250 acres) and large estates (over 250 acres) have been reduced to an insignificant part of the total arable land of Greece. These remnants of estates fall into the following categories:

1. Private estates not touched by the expropriation measures or remnants of larger expropriated estates. It is estimated that there still are about 1,400 such estates in Greece having more than 75 acres each. These total 216,000 acres.

2. Private estates exempted from expropriation in accordance with special agreements between the Government and the landlords. In these agreements it was stipulated that the landlords would undertake to carry out exemplary and scientific cultivation of their lands. Under this category fall seven estates with a total area of about 5,500 acres.

3. Church and monastic lands. Though most of these lands have been expropriated and used for settling landless rural laborers, a considerable area remains in the possession of the church and the monasteries. This is estimated as totaling about 540,000 acres, of which 70,000 consist of arable land and the rest of pastures, scrub, and woodland.

4. Land owned by private companies. This last category of medium-sized and large estates includes mostly land restored to cultivation through reclamation projects carried out by private companies. Instead of cash payments, a large part, and in some cases the whole, of the reclaimed or bona fide land has been ceded to the contractor companies. The most important estates in this class are the Copais Lake, which has 48,000 acres of arable land, the 7,500-acre Lysimachia Swamp, the 16,000-acre Lessini Swamp, and the Xynias Lake estate of 7,750 acres.

The Karakul Industry Of South-West Africa*

by E. T. RANSOM

Karakul sheep, historically raised in the Middle East, have been successfully transplanted to South-West Africa, where today they are the principal cash crop of southern farmers and an important dollar earner for the Territory. The industry has grown rapidly during the past 40 years, and South-West Africa has become one of the major Karakul producers, sharing in the world market with Afghanistan, Bessarabia, India, Iran, Iraq, and the Soviet Union.

The United States, though a principal user of Karakul pelts, produces comparatively few of its own. Although some purebred Karakul sheep were brought into the United States in the early 1900's and some ranchers specialize in the breed, the Nation largely depends on Karakul imports. In 1946 and 1947, for example, we purchased 70 percent of South-West Africa's Karakul output.

The Karakul breed of sheep is particularly prized for the production of lambskins, utilized as fur. The skins may be roughly divided into three classes, commercially known as "broadtail," "Persian," and "caracul." Broadtail is the skin of prematurely born lambs; Persian lamb is the skin of lambs 3 to 10 days old; and caracul is the trade name of skins of lambs from 2 weeks to 2 months old.

The Karakul sheep is a desert breed, able to withstand long periods of scant feed because of the fat stored in the tail. The origin of the present-day Karakul is said to be Bokhara, Russia, although for ages past Turkestan has been famous for its "Persian lambs." The Karakul has historically been in the hands of nomadic tribes, and consequently until recently has not been bred along scientific lines. In recent years the

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*From reports of American Consul, John C. Fuess, and Agricultural Attaché, J. L. Dougherty, Capetown Consulate General.

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Pure-bred Karakul lamb, on farm near Windhoek.

rise of Soviet collective farming, with its detrimental effect on initiative has given increased opportunity to South-West African breeders to compete in world markets.

The Germans first introduced Karakul sheep into South-West Africa. The industry was started in Germany in 1903 from stock brought from Bokhara and was moderately successful. Unfavorable climatic conditions, however, caused the German Karakul promoters to seek a more favorable area for the further development of the breed. South-West Africa, then a German possession, was chosen because of its almost ideal environment, and, in 1909, 25 rams and 255 ewes were sent there. Other South-West African farmers, seeing the success of the experiment, subsequently imported purebred stock for their own use. The sheep thrived in the dry, hot, nonhumid climate, where the sparseness of vegetation would hardly support other animal life, and the industry expanded rapidly.

Karakul farming is located mainly in the southern half of the country, where vegetation, which consists largely of a species of Karroo shrub, is more suited to sheep than the luxuriant grass and bushveld areas to the north.

Production

Representatives of the Karakul Breeders Association in Windhoek, South Africa, in 1949 estimated the purebred ewe numbers, 1 year old and older, at 20,000, purebred rams at 20,000, low and high-grade Karakuls and crossbred ewes at 3,000,000, and crossbred rams at 30,000, totaling approximately 3,100,000 head. Comparison with the 2,600,000 head in 1939 and 89,000 head in 1925 indicates the steady growth of the industry.

Production of pelts totaled 2,000,000 during the 1947–48 season and 2,100,000, in 1948–49. Officials of the association predict further increases in the next two seasons. At the present time, South-West Africa ranks third as a producer of "Persian lambs," surpassed only by the Soviet Union—the native habitat of the breed—and Afghanistan.

The accompanying table shows the steady increase in value of exports through the war years until the drought in 1946–47.

Economic Significance

The production of Karakul pelts is the most important single item in the Territory's economy. The value of pelts exported in 1946 was 3,828,251 pounds (about $17,000,000), representing about 80 percent of the Territory's exports to foreign countries in that year.

Karakul pelt, stretched on hessian frame to dry.

The livelihood of the European population, particularly in the southern part of South-West Africa, almost entirely depends on this one industry and because of the climatic conditions possibly no other means of support are available.

The South-West African Administration also depends greatly on the Karakul industry as a source of revenue as it secures a 2.5-percent ad valorem tax on pelts that are exported.

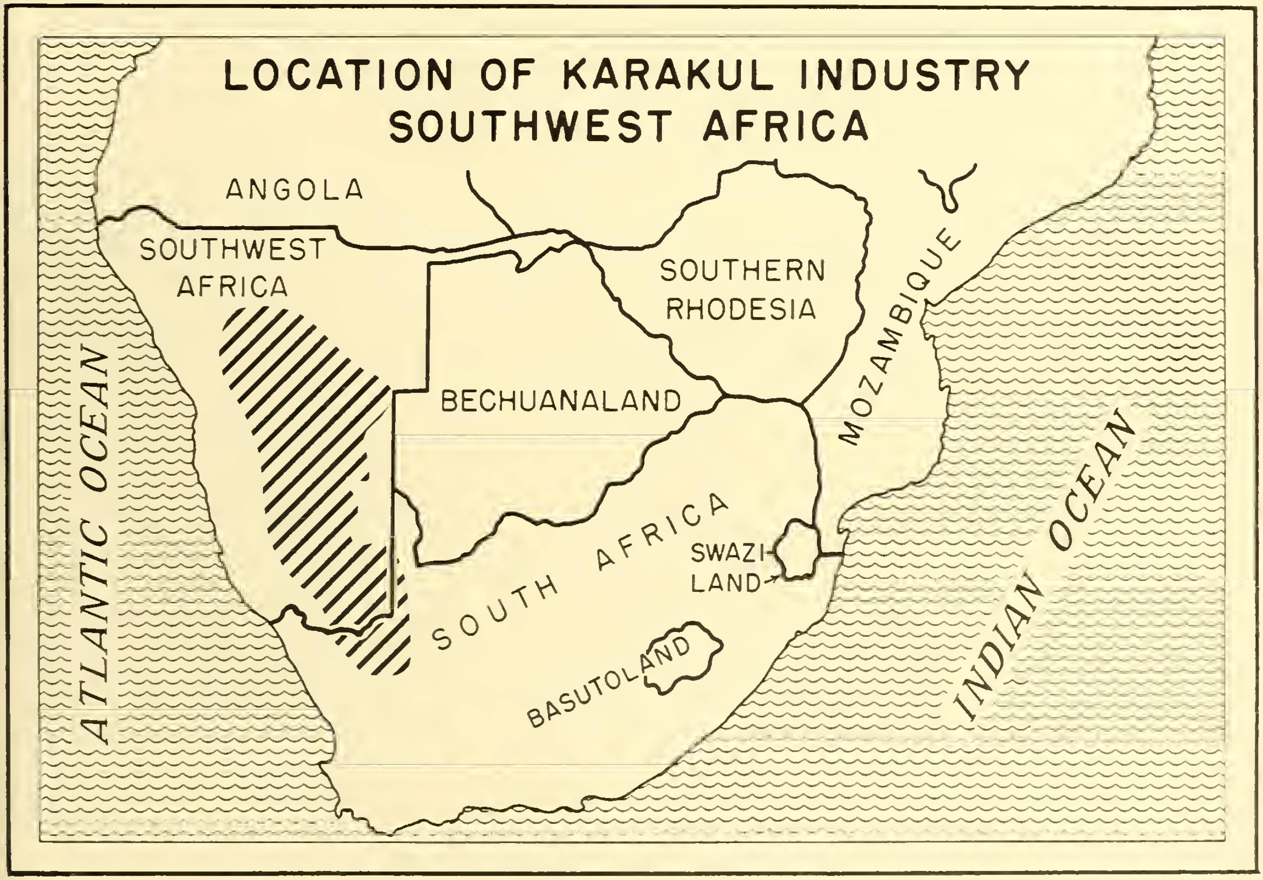
As a dollar earner for South-West Africa, the Karakul industry has played an important role. In 1946 and 1947 the United States was the principal purchaser of pelts, taking more than 70 percent of the total exports. The United Kingdom was the second largest purchaser. Up to the time of sterling devaluation, there was a considerable amount of reexport from continental Europe and even from China as a direct result of sterling manipulation, to the detriment of the hard-currency balance in South-West Africa. This is not the case, however, at the present time. European markets are now regaining their former importance and in many instances are outbidding the United States buyers.

Table 1.—*Number and value of Karakul pelts exported from South-West Africa, annual 1939, 1943–49*

Year	Number of pelts exported	Total value	Average value per pelt
	Million	*Million dollars*	*Dollars*
1939	1.6	6.4	4.00
1943	2.3	10.7	4.60
1944	2.5	12.9	5.50
1945	2.4	17.3	6.40
1946	2.2	16.5	7.40
1947	1.9	14.0	7.20
1948	2.0	16.7	8.20
1949	2.4	12.9	5.40

Outlook for the Industry

The prosperity of the farmer and of the country largely depends on the production of Karakuls. In the Karakul, the owner possesses not only the pelt of the lambs but also the wool from the older animals, and should pelt and wool prices fall below economic levels, the Karakul can be used as a food mutton animal. In the final analysis there is little alternative



enterprise for the southern half of South-West Africa; no other animal can thrive there because of the low rainfall, high evaporation rate, sparse vegetation, and the lack of watering places.

Karakul numbers have increased to a high level in the past 3 years. High prices have prevailed, and moisture and grazing conditions have been exceptionally favorable. Present numbers are not expected to be maintained, however, when more normal prices and weather conditions return.

Bananas From Small Farms

By LEWIS E. LONG

We are accustomed to thinking of bananas as the rather exclusive product of Central America's large fruit plantations. It may be of interest to consumers to learn that banana production is also a small business venture of considerable importance. Many small farmers of Central America's tropics today are growing bananas for export on plantings ranging from half an acre to perhaps 25 acres. The problems of controlling disease in large plantings and of obtaining sufficient labor for large operations have helped accelerate the trend toward the smaller production pattern. This is a story of a small segment of this phase of the banana industry—a segment repeated in part or in whole in many places on both coasts of Central America.

On any Monday, a small coastwise motorship leaves Bluefields, Nicaragua, for Colorado Bar in the southeast corner of the country to pick up a cargo of fruit. On Tuesday, other coastwise boats will leave for points nearer Bluefields, while on Wednesday morning tugboats with barges in tow will leave for points on the Escondido River and its tributaries. On all the rivers, farmers know that on a certain day bananas can be sold at a certain point on the river. The schedule is timed so that the fruit will arrive almost simultaneously at El Bluff, the port that serves the Bluefields area. Let us follow one farmer's fruit as it goes to market.

It is Wednesday evening now and the place is Muelle de los Bueys—Bulls' Wharf—20 miles above the head of navigation on the Mico River and 84 miles by water from the seaport, El Bluff. Juan Pérez knows that the next day fruit will be picked up at El Recreo, 20 miles downstream, at a price averaging 5 cordobas ($1) a stem, or bunch—a good price according to his experience. He takes his machete and goes through his 2½-acre planting in search of fruit of the proper degree of maturity. That is important for if it is too ripe or too green the buyer will reject it. Juan finds about 20 bunches this time—some weeks he finds more; some weeks less. With a well-controlled blow of the machete, he almost severs the banana stalk. As it falls rather slowly, he catches the bunch on his shoulder, cuts it from the stock, and carries it to the river bank where he leaves it until the following morning.

Early that morning, he loads the fruit, padded with dried, but moist, banana leaves, into a large canoe and some 3 hours later runs the rapids and comes out on the still pool beside the barge at El Recreo. Sometimes his canoe overturns in the rapids, but he is a good swimmer and the water is not cold. The fruit floats and friends with canoes help recover it.

Juan's canoe is only 1 of about 20 that come down river. On the barge the fruit of these small growers will be mingled with fruit brought in from farms around El Recreo by mule and ox, on the backs of men and the heads of women. The fruit is paid for immediately, whereupon Juan and his companions usually participate for a while in some of the village recreation, make some purchases at one of the Chinese-operated stores, and return to their farms. This scene takes place at many places along the rivers, the only difference being in point of time.

About noon on Friday, a trim little motor ship, the *Teresa*, docks at the seaport El Bluff. The *Teresa* was originally a mine sweeper and was acquired by its present owners after service at Pearl Harbor. She is stoutly constructed, 132 feet long with a 22-foot beam, and powered with a pair of 500-horsepower Diesel motors. She has 3 cargo hatches, is of Honduran register, and carries a crew of 10.

About 4 p. m., a small tugboat pulling a bargeload of bananas is seen on the lagoon. In a moment the barge is lashed alongside, and the work of loading the ship begins. All is done with manpower in the

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manner of a bucket brigade in fighting a fire. Stevedores stand in a zigzag line facing each other, some on boxes or oil drums to run the line over the ship's rail and down into the hold. A bunch of fruit is lifted from the barge and tossed to the first man in line who catches it on his palms, makes a quarter turn, and tosses it to the next, and so on until it reaches the packers in the hold. In the hold, two courses of stems are set upright one above the other after which the stems are laid horizontally until the hold is full.

The rate of loading is about 30 stems per minute of actual working time. At the same time the fruit is graded as to size of bunch and degree of maturity. Those stems beginning to turn yellow and those that are underdeveloped are set aside and placed on the stern deck of the ship.

Half an hour after the barge is unloaded, a coaster from Colorado Bar arrives with some 1,200 stems in its hold. While it is unloading, another barge arrives. Eventually, its cargo, too, goes into the holds of the *Teresa,* after which there is a wait of a couple of hours until the last barge with cargo for the *Teresa,* the one from El Recreo that carries Juan's bananas, arrives. By 4 a. m. Saturday, the *Teresa* is loaded with 4,400 stems of bananas, having an average weight of about 50 pounds each, and made ready to sail at daylight.

Lines are cast off at 6 o'clock and the *Teresa* moves out to sea. It arrives in Tampa about mid-morning on Thursday. A customs officer comes aboard, followed a moment later by a staff member of the produce company to which the fruit is consigned and several prospective buyers. In the street, adjacent to the dock, are two or three refrigerated trucks, a huge staked-bodied truck belonging to the local produce company, several pick-up trucks, and a couple of push-carts, waiting to receive the cargo.

Cutting bananas with a machete in Central America.

As the stevedores are signed on, and while an officer is clearing the dock of visitors, electrically operated unloading equipment is wheeled up and placed in position. This consists of rubber belts set at right angles to the ship and extending over the side from a point just above the hatches to a point about 7 feet above the dock and some 15 feet from the ship. Below these belts and at right angle to them is a horizontal belt running to a point about 20 feet behind the stern of the ship. The placing of this equipment together with stools and stands for some of the workers to stand upon requires about 20 minutes. Meantime, trucks have been backed in to the direct escalators, and unloading begins. From the hold to the belt, unloading is the reverse of the loading process, but there similarity ceases.

At the edge of the dock stands a representative of the buyer who selects his bunches, picks off and discards unattractive fruits, and, with a hand tally, counts the bunches selected. As the fruit moves up the incline, irregular and overripe bunches are removed and placed on the lower belt. Selected bunches go into refrigerated trucks.

Irregular bunches are removed to tables where the hands[1] of fruit are cut from the stem and packed in crates; whole overripe bunches are removed to pick-up trucks, apparently belonging to local fruit merchants. Overripe parts of bunches pass on to the end of the line where push-cart men select the best.

Of the refrigerated trucks that are loaded, one or two will perhaps go to points in Georgia and another to North Carolina. The remainder of the fruit will probably be used in Tampa and its environs. The unloading process requires slightly more than 2 hours. When it is finished, a group of bystanders come on the dock to salvage sound fruit that had shaken from the stems in handling. Some of the people probably hope to sell what they salvage, while others wish only a supply for their own use.

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[1] A cluster of bananas; there is an average of nine hands on a stem.

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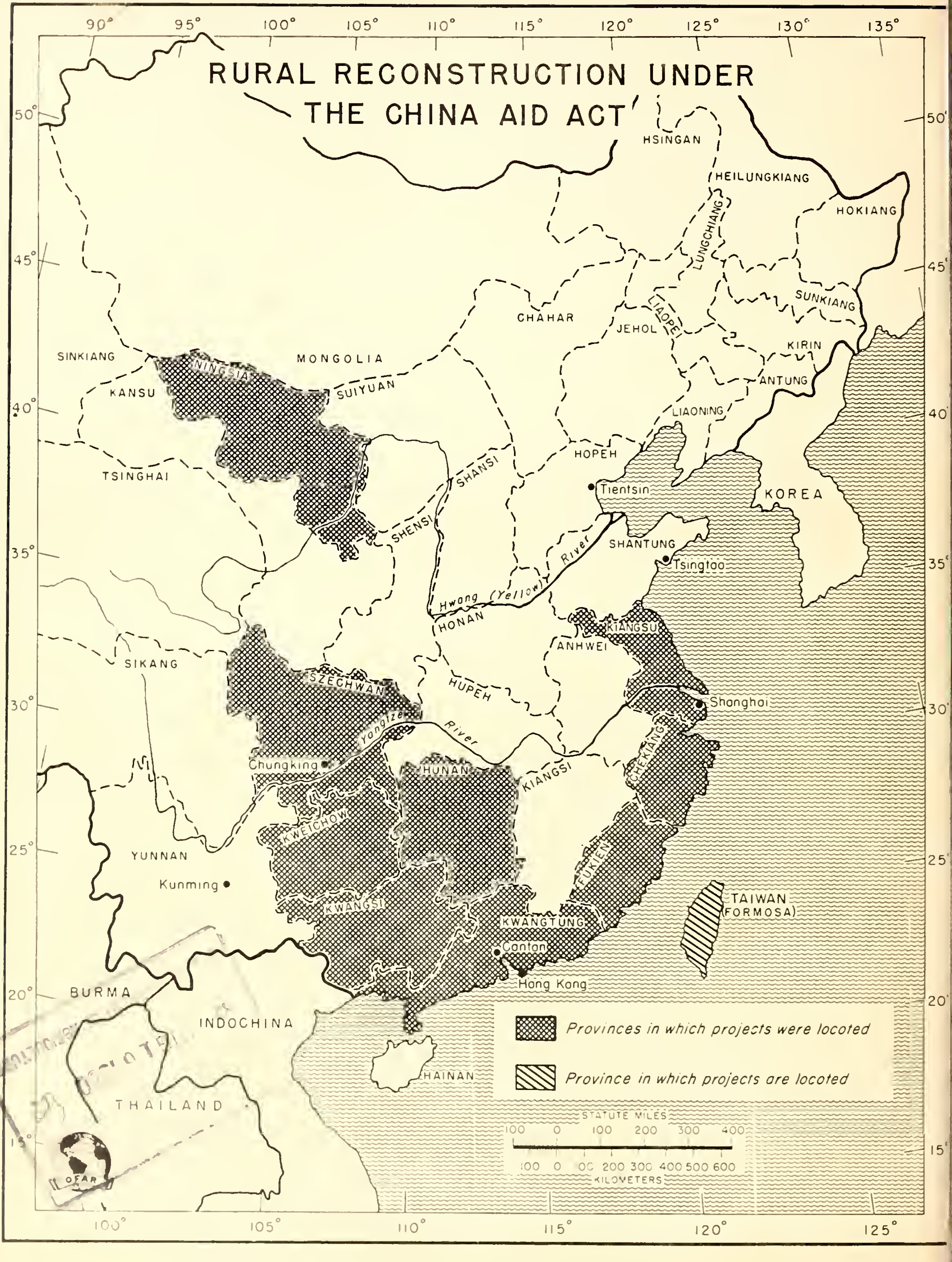

RURAL RECONSTRUCTION UNDER THE CHINA AID ACT